

**64548**  
Dilithic Breccia  
8.49 grams



*Figure 1: Photo of 64548. Mm scale. S72-55353.*

### **Introduction**

64548 is a rake sample (walnut) from the boulder field at station 4 on Stone Mountain – see section on 64501. It is not known if it is local, or if it is part of the ejecta that landed there. It is a fine grain mix of chalky white anorthite and dark aphanitic impact melt (figure 1).

### **Petrography**

Warner et al. (1973) classify 64548 as a “light matrix breccia”. However, McKinley et al. (1983) and others realized that 64548 was essentially the same as the sequence 64535, 64546, because of the distinctive light and dark texture and clean boundary between the two lithologies (figure 2).

Ryder and Norman (1980) reported that the matrix was crushed anorthositic material intimately mixed with patches of dark impact melt.

### **Chemistry**

McKinley et al. (1983) and Floran et al. (1976) reported analyses of 64548 (table 1). Ryder and Norman (1980)

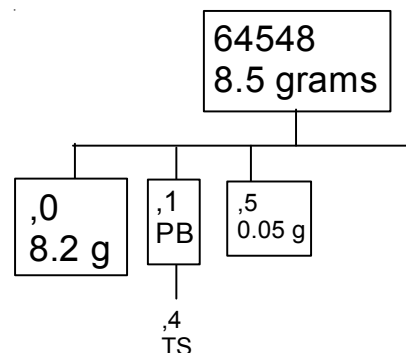
referred to unpublished analyses by Blanchard (figure 3).

### **Other Studies**

Pearce and Simonds (1974) determined the magnetic properties of 64548 and Gooley et al. (1973) determined the Ni and Co of iron grains and schreibersite.

### **Processing**

There is only one thin section of 64548.





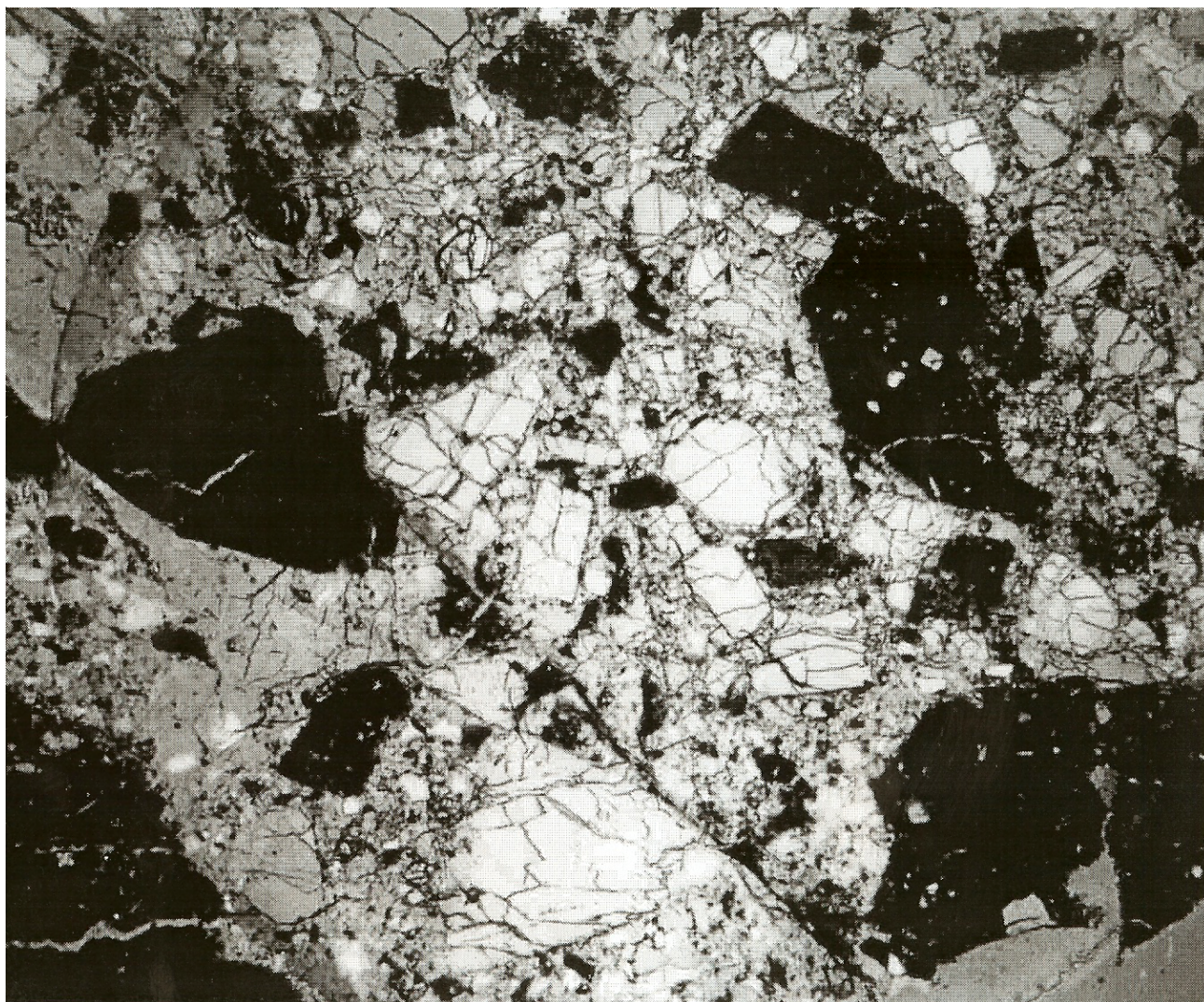


Figure 2: Photomicrograph of thin section 64548,4. Width of field is 2 mm.

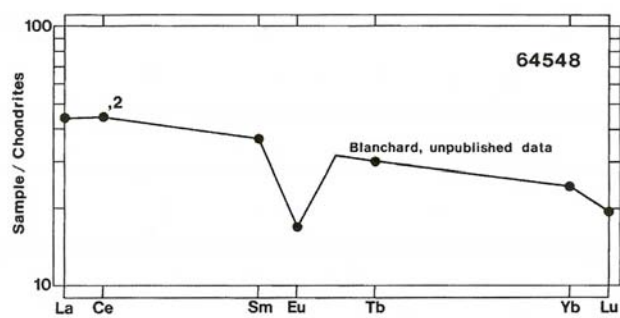


Figure 3: Normalized rare-earth-element diagram for 64548 (Blanchard).

**Table 1. Chemical composition of 64548.**

reference weight	Floran76	Blanchard	McKinley83
SiO <sub>2</sub> %	45.28 (c)		47.6 (a)
TiO <sub>2</sub>	0.43 (c)		0.88 (a)
Al <sub>2</sub> O <sub>3</sub>	27.67 (c)		21.24 (a)
FeO	4.47 (c)		5.9 (a)
MnO			0.09 (a)
MgO	5.67 (c)		10.27 (a)
CaO	15.79 (c)		12.83 (a)
Na <sub>2</sub> O	0.46 (c)		0.52 (a)
K <sub>2</sub> O	0.13 (c)		0.27 (a)
P <sub>2</sub> O <sub>5</sub>			
S %			
sum			
(a)			
Sc ppm		6.78 (b)	
V			
Cr			
Co		24.5 (b)	
Ni		380 (b)	
Cu			
Zn			
Ga			
Ge ppb			
As			
Se			
Rb			
Sr			
Y			
Zr			
Nb			
Mo			
Ru			
Rh			
Pd ppb			
Ag ppb			
Cd ppb			
In ppb			
Sn ppb			
Sb ppb			
Te ppb			
Cs ppm			
Ba			
La		14.6 (b)	
Ce			
Pr			
Nd			
Sm			
Eu			
Gd			
Tb			
Dy			
Ho			
Er			
Tm			
Yb			
Lu		0.67 (b)	
Hf			
Ta			
W ppb			
Re ppb			
Os ppb			
Ir ppb			
Pt ppb			
Au ppb			
Th ppm			
U ppm			

technique: (a) broad beam e probe, (b) INAA, (c) fused bead e probe.

**References for 64548**

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